

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/046927 A1

(51) International Patent Classification⁷: **G06F 11/10**

(21) International Application Number:
PCT/IB2003/005106

(22) International Filing Date:
10 November 2003 (10.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
102 54 324.0 21 November 2002 (21.11.2002) DE
03100721.4 20 March 2003 (20.03.2003) EP

(71) Applicant (for DE only): **PHILIPS INTELLECTUAL
PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-
damm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US):
KONINKLIJKE PHILIPS ELECTRONICS N.V.
[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven
(NL).

(72) Inventors; and

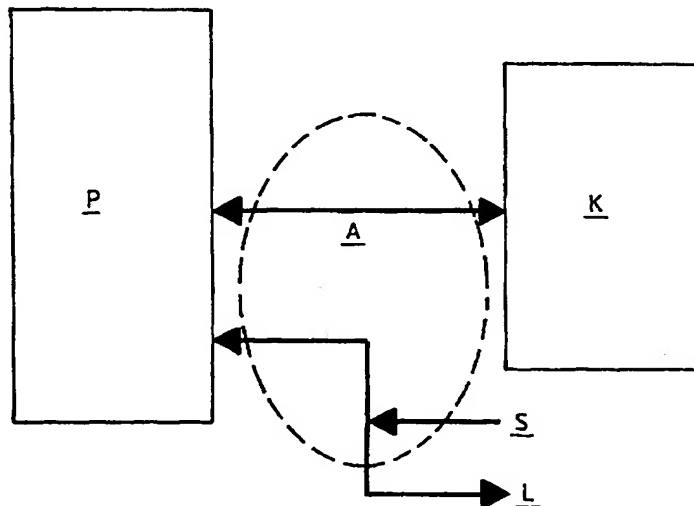
(75) Inventors/Applicants (for US only): **OSTERTUN,**
Soenke [DE/DE]; Philips Intellectual Property & Stan-
dards GmbH, Weissshausstr. 2, 52066 Aachen (DE).
WAGNER, Mathias [DE/DE]; Philips Intellectual Prop-
erty & Standards GmbH, Weissshausstr. 2, 52066 Aachen
(DE). **MÜLLER, Detlef** [DE/DE]; Philips Intellectual
Property & Standards GmbH, Weissshausstr. 2, 52066
Aachen (DE). **BUHR, Wolfgang** [DE/DE]; Philips In-
tellectual Property & Standards GmbH, Weissshausstr.
2, 52066 Aachen (DE). **GARBE, Joachim, Christoph,**
Hans [DE/DE]; Philips Intellectual Property & Standards
GmbH, Weissshausstr. 2, 52066 Aachen (DE).

(74) Agent: **VOLMER, Georg**; Philips Intellectual Property &
Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: ELECTRONIC MEMORY COMPONENT OR MEMORY MODULE, AND METHOD OF OPERATING SAME



(57) **Abstract:** In order to develop an electronic memory component or memory module (100), having at least one memory cell area (10) in which physical states (P) representing regular data are mapped by means of at least one mapping function (A) that describes at least one error correction code, for example at least one Hamming code, and also a method of operating at least one electronic memory component or memory module (100) of the abovementioned type, such that on the one hand the error detection probability is considerably increased and on the other hand unwritten memory blocks can be reliably distinguished from memory blocks that have already been written to once before, it is proposed that at least one further physical state in the form of at least one exceptional or special state (L, S) in the error correction code can be detected, encoded and/or indicated by means of the mapping function (A).